

5 where "A" represents the total activity over the time interval.

REMARKS

The Office Action mailed September 2, 1998, has been carefully considered.

The Examiner objected to the specification and claims 5-8, 13 and 14 on several grounds. In addition, the Examiner rejected claims 1 and 2 under 35 U. S. C. §103 as being obvious over U. S. Patent No. 5,566,315 to Milillo et al. (hereinafter "Milillo") in view of U. S. Patent No. 5,590,308 to Shih (hereinafter "Shih"). The Examiner indicated that claims 3-16 were allowable.

Preliminarily, Applicant respectfully thanks the Examiner for the indication of allowable subject matter. By this amendment, Applicant is amending the specification and claims to correct the errors noted by the Examiner and to correct other minor matters. In addition, Applicant is adding claims 17-24 directed to a "computer program product."

Applicant respectfully submits that the claims patentably distinguish over the references. Applicant will first address claim 1 as representative. Claim 1 is directed to a system for generating an operational assessment of a cache memory in a digital data processing system for respective cache memory sizes comprising an operational statistics gathering element, a cache miss prediction element, and a cache memory size adjustment element. The operational statistics gathering element is configured to gather operational statistics over a time interval, including a file information retrieval activity value and an extent of activity value for each file accessed during the time interval. The cache miss prediction element is configured to generate a cache miss prediction value in response to the operational statistics gathered by the operational statistics gathering element and a cache memory size value. The cache memory size adjustment element configured to adjust the cache memory size in response to the cache memory size value generated by the cache miss prediction element for a selected one of said cache miss prediction values.

Milillo describes a system for predicting and controlling the use of a cache memory in a computer system. Milillo's system adjusts the size of a cache memory based on two statistics gathered over various time periods, namely, an allocation rate and a blockage rate. As described in column 6, line 45 through column 7, line 10, the allocation rate is related to cache hits and the

37

blockage rate is related to cache misses over respective time periods. There is no suggestion in Milillo of generating a cache miss prediction value based on operational statistics including a file information retrieval activity value and an extent of activity value for each file accessed during the time interval, and a cache memory size value, as required in the claim.

The Examiner apparently cited Shih for several deficiencies noted in connection with Milillo, namely, that Milillo does not disclose operational statistics and generating the cache miss prediction value based on a particular one of a plurality of cache memory management methodologies (the latter apparently related to claim 2). Shih describes an arrangement for reducing false invalidations in a distributed file system. In Shih's system, a distributed global cache memory LRU stack for a distributed file, multiple processor system is updated with local cache read hit data in accordance with a variable update interval. A global interval is determined for each processor as a function of statistical metrics from the most recent update interval. For large systems, in which the size of the global cache memory is much larger than the total size of the local cache memories, the update interval is the expected minimum residency time for a data record in the global cache memory. For small systems, in which the size of the global cache memory is approximately the same as the total size of the local cache memories, the updated interval is the expected average residency time in the local cache memories. In any case, while Shih discloses use of operational statistics in connection with a cache memory, there is no suggestion of use of operational statistics such as a file information retrieval activity value and an extent of activity value for each file accessed during the time interval, and a cache memory size value, as required in the claim.

Accordingly, Applicant respectfully submits that neither Milillo nor Shih, whether considered individually or in combination, teach or suggest the invention recited in claim 1.

Applicant further submits that independent method claim 9 and independent computer program product claim 17 are allowable for the reasons set forth above in connection with claim 1. Independent method claim 9 is directed to a method of generating an operational assessment of a cache memory in a digital data processing system using statistics along the lines of those set forth in claim 1. In addition, independent computer program product claim 17 is directed to a computer program product for enabling a computer to generate an operational assessment of a cache memory in a digital data processing system using statistics along the lines of those set forth in claim 1.

Applicant further submits that dependent claims 2-8, 10-16 and 18-24 are allowable at least for the reason that they depend from allowable independent claims.

It is believed that this application is allowable, and a notice of allowability is respectfully solicited.

Respectfully submitted,



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